

ORIGINAL

Before The  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

In re Applications of ) MM Docket No. 86-440  
ACHERNAR BROADCASTING COMPANY ) File No. BPCT-860410KP  
and )  
LINDSAY TELEVISION, INC. ) File No. BPCT-860410KQ  
For Construction Permit for a new )  
Television Station, Channel 64, )  
Charlottesville, Virginia )

RECEIVED

JUN 24 1998

To: The Commission

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

SUPPLEMENT TO  
JOINT PETITION FOR APPROVAL OF SETTLEMENT AGREEMENT,  
FOR LEAVE TO AMEND APPLICATION  
AND FOR IMMEDIATE GRANT OF CONSTRUCTION PERMIT

The referenced joint petition filed January 30, 1998 is supplemented by submitting the attached amendment of the amendment of the application in BPCT-860410KP (changing the applicant to Charlottesville Broadcasting Corporation, a merger of the interests of Achernar Broadcasting Company and Lindsay Television, Inc.). The attached amendment (a) proposes operation on channel 19 instead of channel 64, at the same transmitting location and with substantially the same technical facilities, and (b) provides an agreement formally resolving interference issues between the National Radio Astronomy Observatory (the Observatory), Achernar Broadcasting Company, Lindsay Television, Inc. (Lindsay) and Charlottesville Broadcasting Corporation (CBC).

Reasons supporting a grant of the petition as supplemented

No. of Copies rec'd  
List ABCDE

0+14

acceptance of the amendment filed January 30, 1998 and the supplemental amendment now being filed, and an immediate grant of the application of CBC as amended (together with dismissal of the Lindsay application), are those set forth in the opening joint petition and also the following:

1. The proposed operation on channel 19 removes the obstacle to approval of the settlement and grants of requested relief, stated in the Mass Media Bureau's opposition to the joint petition filed February 12, 1998.

2. The engineering statement in the attached amendment demonstrates that substitution of channel 19 for channel 64 complies with both the analog table of television allotments and the digital table of television allotments.

3. Any inconsistency between a grant of the application of CBC as amended and the Commission's regulatory program with respect to channels 60-69 in ET Docket 97-157 will be eliminated.

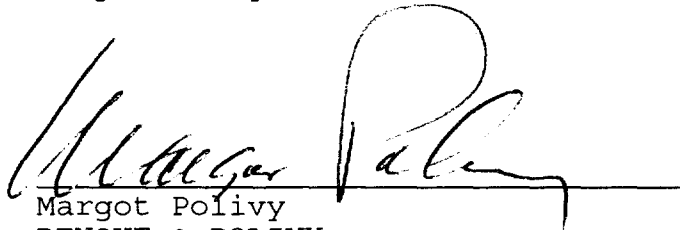
4. A complex comparative proceeding and litigation involving unique issues relative to the Radio Quiet Zone, which commenced in April 1986 and has entered its 14th year, will be settled in accordance with the provisions of the Balanced Budget Act of 1997 codified in 47 U.S.C. §309(i).

5. Good cause exists for acceptance of this amendment pursuant to 47 C.F.R. §73.3522(b); California Broadcasting Corporation, 90 F.C.C.2d 800 (¶17) (1982); Erwin O'Conner Broadcasting Co., 22 F.C.C.2d 140 (Rev.Bd. 1970). The parties have acted with due diligence following events leading to the

potential loss of channel 64. The amendment is not required due to any voluntary act by the parties. No additional issues or parties will be required. The hearing process will be ended, not disrupted. No party will be prejudiced. No party will gain a comparative advantage. With respect to the fact that the amendment is an engineering one, the heightened good cause requirement is also met since the amendment is necessitated by events which the parties could not reasonably have foreseen.

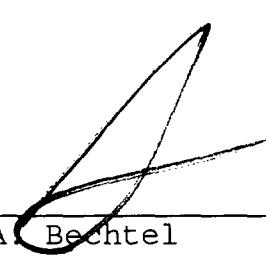
6. Upon a grant of the construction permit for channel 19, the tables of analog and digital television allotments may be modified by implementing order (similar to those employed following the grant of FM one-step upgrade applications), waiving any rule provision, including 47 C.F.R. §73.607 if applicable, that may be required under the Congressional mandate for settlement of long-standing comparative cases in Section 309(i) of the Act. Alternatively, the Commission may elect to order the channel change on its own motion under 47 U.S.C. §303(c).

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Margot Polivy', is written over a horizontal line.

Margot Polivy  
RENOUF & POLIVY  
1532 Sixteenth Street, N.W.  
Washington, D.C. 20036  
(202) 265-1807

Counsel for Achnar  
Broadcasting Company



---

Gene A. Bechtel  
BECHTEL & COLE, CHARTERED  
1901 L Street, N.W., Suite 250  
Washington, D.C. 20036  
(202) 833-4190

Counsel for Lindsay  
Television, Inc.

June 24, 1998

**ENGINEERING STATEMENT COVERING  
AMENDMENT TO APPLICATION FOR CONSTRUCTION PERMIT  
FOR ACHERNAR BROADCASTING COMPANY  
CHANNEL 19 500-506 mHz  
2,380 kW MAX. DA @ 359.7 METERS  
CHARLOTTESVILLE, VIRGINIA**

**JUNE 1998**

**ENGINEERING STATEMENT COVERING  
AMENDMENT TO APPLICATION FOR CONSTRUCTION PERMIT  
FOR ACHERNAR BROADCASTING COMPANY  
CHANNEL 19 500-506 mHz  
2,380 kW MAX. DA @ 359.7 METERS  
CHARLOTTESVILLE, VIRGINIA**

**JUNE 1998**

**TABLE OF CONTENTS**

**FORMS:**

FCC FORM 301, *Section V-C*

FAA Form 7460-1

**ENGINEERING STATEMENT**

**TABLES:**

- I. TV system operating specifications.
- II. Tabulation of terrain and coverage data.
- III. Horizontal plane radiation pattern, Andrew ATW-24G-C1 (custom).

**FIGURES:**

1. Harris ATW-24G-C1 (custom) horizontal plane pattern.
2. Computed 80 dBu, 74 dBu and 64 dBu coverage contours.
3. Vertical plan sketch.
4. Harris ATW-24G-C1, elevation pattern.

- APPENDIX:**
1. Channel 19 allocation study statements and NRAO protection analysis.

<b>SECTION V-C - TV BROADCAST ENGINEERING DATA</b>	<b>FOR COMMISSION USE ONLY</b> File No. _____ SSB Referral Date _____ Referred By _____
--	--

Name of Applicant <div style="text-align: center; margin-top: 10px;"><b>Achernar Broadcasting Company</b></div>	Call Letters (if issued)
--	--------------------------

Purpose of Application: (check appropriate boxes)

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Construct a new (main) facility            | <input type="checkbox"/> Construct a new auxiliary facility                         |
| <input type="checkbox"/> Modify existing construction permit for main facility | <input type="checkbox"/> Modify existing construction permit for auxiliary facility |
| <input type="checkbox"/> Modify licensed main facility                         | <input type="checkbox"/> Modify licensed auxiliary facility                         |

If purpose is to modify, indicate the nature of change(s) by checking appropriate box(es) and specify the file number(s) of the authorizations affected.

- |   |   |
|---|---|
| <input type="checkbox"/> Antenna supporting structure height  | <input type="checkbox"/> Effective radiated power |
| <input type="checkbox"/> Antenna height above average terrain | <input type="checkbox"/> Frequency                |
| <input type="checkbox"/> Antenna location                     | <input type="checkbox"/> Antenna system           |
| <input type="checkbox"/> Main Studio location                 | <input type="checkbox"/> Other (summarize)        |

File Number(s) \_\_\_\_\_

1. Allocation:

Channel No.	Offset (check one)	Principal community to be served:	Zone (check one)						
19	<input type="checkbox"/> Plus	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">County</td> <td style="border: 1px solid black; padding: 2px;">City or Town</td> <td style="border: 1px solid black; padding: 2px;">State</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">Albermarle</td> <td style="border: 1px solid black; padding: 2px;">Charlottesville</td> <td style="border: 1px solid black; padding: 2px;">VA</td> </tr> </table>	County	City or Town	State	Albermarle	Charlottesville	VA	<input checked="" type="checkbox"/> I
	County		City or Town	State					
	Albermarle		Charlottesville	VA					
	<input checked="" type="checkbox"/> Minus		<input type="checkbox"/> II						
<input type="checkbox"/> Zero	<input type="checkbox"/> III								

2. Exact location of antenna.

- (a) Specify address, city, county and state. If no address, specify distance and bearing relative to the nearest town or landmark. **Carter's Mountain, 3.7 km SSW of the intersection of Routes 20 and 64, Charlottesville, Albermarle County, Virginia**
- (b) Geographical coordinates (to nearest second). If mounted on element of an AM array, specify coordinates of center of array. Otherwise, specify tower location. Specify South Latitude and East Longitude where applicable; otherwise, North Latitude or West Longitude will be presumed. (The Commission requires coordinates based on NAD 27.)

Latitude      37 °      59 '      05 "	Longitude      78 °      28 '      49 "
--	---

3. Is the supporting structure the same as that of another station(s) or proposed in another pending application(s)? ☒ Yes ☐ No

If Yes, give call letter(s) or file number(s) or both. WUMX (FM), WWWV (FM), W24 OAF

If proposal involves a change in height of an existing structure, specify existing height above ground level including antenna, all other appurtenances, and lighting, if any.

91.4 meters

Section V-B - TV BROADCAST ENGINEERING DATA (Page 2)

4. Does the application propose to correct previous site coordinates?  
If Yes, list old coordinates.

☐ Yes ☒ No

Latitude	°	'	"	Longitude	°	'	"
----------	---	---	---	-----------	---	---	---

5. Has the FAA been notified of the proposed construction?

☒ Yes ☐ No

If Yes, give date and office where notice was filed and attach as an Exhibit a copy of FAA determination, if available.

Exhibit No.  
See Eng.

Date 9-5-97 Office where filed Eastern Region

6. List all landing areas within 8 km of antenna site. Specify distance and bearing from structure to nearest point of the nearest runway.

	Landing Area	Distance (km)	Bearing (degrees True)
(a)	<u>Morven Farms (Pvt.)</u>	<u>5.4</u>	<u>207°</u>
(b)	<u>U. of VA Hospital (Pvt.)</u>	<u>5.6</u>	<u>342°</u>

7. (a) Elevation (to the nearest meter)

- (1) of site above mean sea level; 426.7 meters
- (2) of the top of supporting structure above ground (including antenna, all other appurtenances, and lighting, if any); and 108.8 meters
- (3) of the top of supporting structure above mean sea level [(a)(1) + (a)(2)]. 535.5 meters

- (b) Height of antenna radiation center: (to the nearest meter)

- (1) above ground; 101.2 meters
- (2) above mean sea level [(a)(1) + (b)(1)]; and 527.9 meters
- (3) above average terrain. Average of 8 evenly spaced radials equals 168.2 meters 359.7 meters

8. Attach as an Exhibit sketch(es) of the supporting structure, labeling all elevations required in Question 7 above, except item 7(b)(3). If mounted on an AM directional array element, specify heights and orientations of all array towers, as well as location of FM radiator.

Exhibit No.  
N/A

9. Maximum visual effective radiated power: 2,380 kw

Section V-C - TV BROADCAST ENGINEERING DATA (Page 3)

10. Antenna

(a) Manufacturer Andrew (b) Model No. ATW-24G-C1 (Custom)

(c) Is a directional antenna proposed? ☒ Yes ☐ No

If Yes, specify major lobe azimuth(s) 115 degrees True and attach as an Exhibit all data specified in 47 C.F.R. Section 73.685.

Exhibit No.  
see eng.

(d) Is electrical beam tilt proposed? ☒ Yes ☐ No

If Yes, specify 1° degrees electrical beam tilt and attach as an Exhibit all data specified in 47 C.F.R. Section 73.685.

Exhibit No.  
see eng.

(e) Is mechanical beam tilt proposed? ☐ Yes ☒ No

If Yes, specify \_\_\_\_\_ degrees mechanical beam tilt toward azimuth \_\_\_\_\_ degrees True and attach as an Exhibit all data specified in 47 C.F.R. Section 73.685.

Exhibit No.  
N/A

(f) The proposed antenna is: (check only one box)

☒ Horizontally polarized ☐ Circularly polarized ☐ Elliptically polarized

11. Will the proposed facility satisfy the requirements of 47 C.F.R. Sections 73.685(a) and (b)? ☒ Yes ☐ No

If No, attach as an Exhibit justification therefor, including amounts and percentages of population and area that will not receive City Grade service.

Exhibit No.  
N/A

12. Will the main studio be located within the station's predicted principal community contour as defined by 47 C.F.R. Section 73.685(a)? ☒ Yes ☐ No

If No, attach as an Exhibit justification pursuant to 47 C.F.R. Section 73.1125.

Exhibit No.  
N/A

13. Does the proposed facility satisfy the requirement of 47 C.F.R. Section 73.610? ☐ Yes ☒ No

If No, attach as an Exhibit justification therefor, including a summary of any previously granted waivers.

Exhibit No.  
See Eng.

14. Are there: (a) within 60 meters of the proposed antenna, any proposed or authorized FM or TV transmitters; or (b) in the general vicinity, any nonbroadcast (except citizens band or amateur) radio stations or any established commercial or government receiving stations? ☒ Yes ☐ No

If Yes, attach as an Exhibit a description of any expected, undesired effects of operations and remedial steps to be pursued if necessary, and a statement accepting full responsibility for the elimination of any objectionable interference (including that caused by intermodulation) to facilities in existence or authorized prior to grant of this application. (See 47 C.F.R. Sections 73.685(d) and (g).)

Exhibit No.  
see eng.

15. Attach as an Exhibit a topographic map that shows clearly, legibly, and accurately, the location of the proposed transmitting antenna. This map must comply with the provisions of 47 C.F.R. Section 73.684(g). The map must further display clearly and legibly the original printed contour lines and data as well as latitude and longitude markings, and must bear a scale of distance in kilometers.

Exhibit No.  
see eng.

**Section V-C - TV BROADCAST ENGINEERING DATA (Page 4)**

16. Attach as an Exhibit a map (Sectional Aeronautical Chart or equivalent) which shows clearly, legibly, and accurately, and with the original printed latitude and longitude markings and a scale of distance in kilometers:

Exhibit No.  
See Eng

- (a) the proposed transmitter location, and the radials along which profile graphs have been prepared;
- (b) the City Grade, Grade A and Grade B contours; and
- (c) the legal boundaries of the principal community to be served.

17. Specify area in square kilometers (1 sq. mi. = 2.59 sq. km.) and population (latest census) within the predicted Grade B contour.

Area 18,481 sq. km.

Population 492,638

18. For an application involving an auxiliary facility only, attach as an Exhibit a map (Sectional Aeronautical Chart or equivalent) that shows clearly, legibly, and accurately, and with latitude and longitude markings and a scale of distance in kilometers:

Exhibit No.  
N/A

- (a) the proposed auxiliary Grade B contour; and
- (b) the Grade B contour of the licensed main facility for which the applied-for facility will be auxiliary. Also specify the file number of the license.

(Main facility license file number: N/A)

19. Terrain and coverage data (to be calculated in accordance with 47 C.F.R. Section 73.684)

Source of terrain data: (check only one box below)

- ☒ Linearly interpolated 30-second database (Source: NGDC 30 second - EDX Engineering)
- ☐ 7.5 minute topographic map
- ☐ Other (briefly summarize)

Radial bearing (degrees True)	Height of radiation center above average elevation of radial from 3 to 16 km (meters)	Predicted Distances		
		To the City Grade Contour (kilometers)	To the Grade A contour (kilometers)	To the Grade B contour (kilometers)
*				
0	391.3	51.5	61.0	79.3
45	292.5	50.2	59.1	75.3
90	411.1	55.7	65.6	85.0
135	384.5	54.6	64.2	83.4
180	381.6	55.0	64.5	83.8
225	354.3	50.8	60.0	77.6
270	305.9	35.5	44.1	59.0
315	356.3	34.4	43.5	58.8

\*Radial through principal community, if not one of the major radials. This radial should NOT be included in the calculation of HAAT.

Section V-C - TV BROADCAST ENGINEERING DATA (Page 5)

20. Environmental Statement. (See 47 C.F.R. Section 1.1301 et seq.)

Would a Commission grant of this application come within 47 C.F.R. Section 1.1307, such that it may have a significant environmental impact, including exposure of workers or the general public to levels of RF radiation exceeding identified health and safety guidelines issued by the American National Standards Institute?

☐ Yes ☒ No

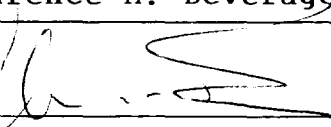
Exhibit No.  
see eng.

If you answer Yes, submit as an Exhibit an Environmental Assessment required by 47 C.F.R. Section 1.1311.

If no, explain briefly why not.      See Engineering

**CERTIFICATION**

I certify that I have prepared this Section of this application on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name (Typed or Printed) Clarence M. Beverage	Relationship to Applicant (e.g., Consulting Engineer) Broadcast Engineering Consultant
Signature 	Address (include ZIP Code) Communications Technologies, Inc. P.O. Box 1130, Marlton, NJ 08053
Date 6-5-98	Telephone No. (include Area Code) 609-985-0077

**ENGINEERING STATEMENT COVERING  
AMENDMENT TO APPLICATION FOR CONSTRUCTION PERMIT  
FOR ACHERNAR BROADCASTING COMPANY  
CHANNEL 19 500-506 mHz  
2,380 kW MAX. DA @ 359.7 METERS  
CHARLOTTESVILLE, VIRGINIA**

**JUNE 1998**

**SUMMARY**

This statement covers an Amendment to a pending Application for Construction Permit for a new TV broadcast station at Charlottesville, Virginia to operate on Channel 64 (BPCT-860410KP).

The firm of *Communications Technologies, Inc.* has been retained by **Achernar Broadcasting Company** ("Achernar") to prepare the engineering portion of the instant Amendment to Application for Construction Permit, which specifies a change in operating frequency from Channel 64 to Channel 19 in response to Commission action in ET Docket No. 97-157. Details of the TV operation, as proposed, are included within this report.

**TRANSMITTER SITE**

The proposed **Achernar** transmitter site location is unchanged and is Carter's Mountain, 3.7 km SSW of the intersection of Routes 20 and 64 in Charlottesville, Virginia. The coordinates and elevation of the site were determined from FAA and FCC files for the existing structure which will be modified to support the proposed antenna:

NORTH LATITUDE:	37° 59' 05"
WEST LONGITUDE:	78° 28' 49"
ELEVATION:	426.7 meters

In accordance with *FCC Rules and Regulations, Section 73.610*, an allocation study has been conducted for the proposed site location and is submitted herein as Appendix I. The proposed facility will not create a short spacing to any proposed, or existing, NTSC facilities nor will interference be caused to DTV allotments.

This statement is in response to *Question 14 of FCC Form 301, Section V-C*. Known full service FM or TV transmitters within 0.5 km of the proposed site are:

WVIR(TV)	CH 29	5000 kW	Charlottesville, VA	0.2 km
WHTJ(TV)	CH 41	251 kW	Charlottesville, VA	0.3 km
WTJU(FM)	CH 216B1	0.75 kW	Charlottesville, VA	0.4 km
WNRN(FM)	CH 220A	0.32 kW	Charlottesville, VA	0.5 km
WUVA(FM)	CH 224A	0.75 kW	Charlottesville, VA	0.4 km
WUMX(FM)	CH 298A	0.21 kW	Charlottesville, VA	0 km
WVTW(FM)	CH 203A	0.12 kW	Charlottesville, VA	0.5 km
WWVW(FM)	CH 248B	8.9 kW	Charlottesville, VA	0 km

There are no AM broadcast facilities within 3.2 kilometers of the proposed site nor existing or proposed FM or TV transmitters in the general vicinity of the proposed site which may produce receiver induced intermodulation interference.

If any adverse effect should be caused by the applicant's proposed operation to any station of the type referenced in the preceding paragraph, remedial steps of accepted standards of good engineering practice shall be taken to alleviate any undesirable interference.

Applicant hereby certifies that it shall accept full and complete responsibility for the elimination of any objectionable interference to existing stations, or to receivers located within the interference zone, caused by the facility specified in this application.

#### **ANTENNA AND SUPPORTING STRUCTURE-NRAO COORDINATION**

The antenna proposed is a custom Andrew ATW-24G-C1, or similar, TV antenna. This antenna has a peak power gain of 36.5 in the horizontal plane. The antenna will be top mounted on the existing guyed tower. The center of radiation is 101.2 meters above grade level and 359.7 meters above average terrain. Null fill and beam tilt are employed as seen in *Figure 4*. *Figure 3* is a vertical plan sketch of the proposed tower and antenna system. ERP calculations for this system have been coordinated with NRAO.

### **TRANSMITTER POWER OUTPUT AND TRANSMISSION LINE**

The applicant proposes the use of a type accepted transmitter such as a Harris HD90CP3 with a rated power output of 90 kW and will be operated at a power output of 73.7 kW. This amount of power, considering transmission line loss and antenna power gain, results in an effective radiated power of 2,380 kW maximum visual for the horizontal plane.

A 400 foot length of 6 1/8" pressurized coaxial transmission line will be used between the transmitter and antenna. This line, *Andrew HRL 600A*, has a rated efficiency of 88.5% at the specified operating frequency.

### **TOPOGRAPHY**

The average elevation of the terrain between 3 and 16 kilometers from the antenna site has been determined utilizing the latest version of the National Geophysical Data Center's thirty second point topography data base (*NGDC 30*). A Linear interpolation method is used to obtain intermediate points along each radial. The method used conforms to the linear interpolation method specified by the *FCC in Public Notice # 3736, FCC 84-341*, dated July 13, 1984.

The average elevation of eight radials from 0 degrees to 315 degrees True, at increments of 45 degrees has been computed. The 0° degree radial passes through Charlottesville. Data applicable to the eight profile radials is tabulated on *Section V-C of Form 301, Page 4 and Table II* of this statement.

### **COVERAGE AREAS**

*Figure 2* is a 1:1,000,000 scale map on which has been drawn the proposed 80 dBu, 74 dBu and 64 dBu contours from the proposed site location. Population and square kilometer area for the site are also shown on *Figure 2*.

A known computer algorithm was used to measure the total land area within the proposed 64 dBu contour. The population within this area was calculated utilizing a computer program of known

accuracy and repeatability, using the centroid retrieval method as accepted by the Commission, with population counted at the block level. Population data is based on 1990 United States Census figures for the state of Virginia. These contours have been delineated on the basis of directional radiation, topography data in 5° azimuth steps, and Figure 1 of FCC Section 73.333.

### **ENVIRONMENTAL IMPACT STATEMENT**

This statement is made in response to *Question 20 of FCC Form 301, Section V-C*. **Achernar** proposes to modify a guyed tower, 91.4 meters in height, by top mounting a UHF TV antenna for a total height above grade level of 108.8 meters. The tower will be FAA code painted and lighted and the FAA has been notified of the proposed construction.

The tower site is located in Charlottesville, Albermarle County, Virginia. No known controversy exists over the use of the proposed transmitter site.

Actual construction of the proposed facility will have negligible impact, since the tower and access road to the site are existing.

RF radiation from the proposed facility has been reviewed in accordance with the "**OET Bulletin 65 (Edition 97-01)**". RF radiation from the proposed facility will not have a significant environmental impact. Utilizing equation (2) on Page 30 of OET Bulletin No. 65 (Supplement A - Edition 97-01), the power density at ground level has been calculated to be 0.277 mw/cm<sup>2</sup>, for a 0.18 relative field, or 83% of the allowable ANSI standard of 0.334 mw/cm<sup>2</sup> for Channel 19 TV stations in an uncontrolled environment. A fence will be installed around the base of the tower to prevent access to the tower by the public. Therefore, it is believed the proposed facility should be categorically excluded from environmental processing with respect to *Section 1.1307(b)*. It is noted that the inclusion of other FM stations on the tower, in the computations, do not result in RF levels which will exceed FCC standards.

Additionally, as further specified in *OET Bulletin 65* with respect to potential occupational hazards, **Achernar** will implement a policies and procedures plan concerning worker exposure. Access to the

area inside the fence will be limited to the General Manager and Chief Engineer of the station and maintenance workers who are authorized by **Achernar** and/or the tower owner. Workers will not be allowed on the tower without prior coordination and a power reduction as required to meet FCC standards. **Achernar** will submit measurement data with its 302 Application, utilizing a Loral Microwave - Narda Model 8700 Radiation Survey System, or similar, which will indicate the actual total radiation levels after construction. It is noted that **Achernar** is not the only planned transmission entity on the tower.

#### **FCC FORM 301**

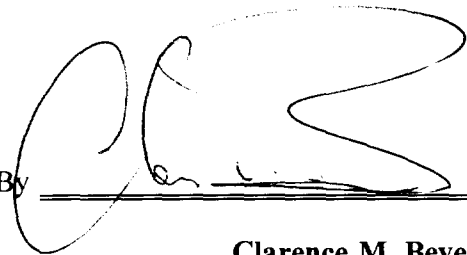
Technical questions pertaining to this statement and to *FCC Form 301, Section V-C*, have been answered in detail and are attached.

#### **CONCLUSION**

It is believed that the TV operation, proposed herein, conforms with the intent and requirements of the Commission's Rules and Technical Standards.

~ 6 ~

The foregoing was prepared on behalf of **Achernar Broadcasting Company** by Clarence M. Beverage of *Communications Technologies, Inc.*, Marlton, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. The statements herein are true and correct of his own knowledge, except such statements made on information and belief, and as to these statements he believes them to be true and correct.

By  \_\_\_\_\_

**Clarence M. Beverage**  
for Communications Technologies, Inc.  
Marlton, New Jersey

**SUBSCRIBED AND SWORN TO** before me,

this 5<sup>th</sup> day of June, 1998,

Esther G. Sperbeck, NOTARY PUBLIC

**ESTHER G. SPERBECK**  
**NOTARY PUBLIC OF NEW JERSEY**  
**MY COMMISSION EXPIRES OCT. 15, 2002**

**TABLE I**

**TV SYSTEM OPERATING SPECIFICATIONS  
FOR ACHERNAR BROADCASTING COMPANY  
CHANNEL 19 500-506 mHz  
2,380 kW MAX. DA @ 359.7 METERS  
CHARLOTTESVILLE, VIRGINIA**

**JUNE, 1998**

CHANNEL: 500-506 mHz  
ERP: 2,380 kW MAX. DA  
HAAT: 359.7 METERS

**TRANSMITTER SITE:**

NORTH LATITUDE: 37° 59' 05"  
WEST LONGITUDE: 78° 28' 49"  
  
ELEVATION: 426.7 meters  
(Above M.S.L.)

**SUPPORTING STRUCTURE:**

TYPE: GUYED STEEL TOWER

	<u>ABOVE GRADE LEVEL</u>	<u>ABOVE M.S.L.</u>
HEIGHT: (With lighting)	108.8 meters	535.5 meters
TV ANTENNA: (center of radiation)	101.2 meters	527.9 meters

**TABLE I**

**~ 2 ~**

**TV ANTENNA SYSTEM**

ANTENNA:	ANDREW ATW-24G-C1 (CUSTOM)
NUMBER OF ELEMENTS:	24
PEAK POWER GAIN:	36.5
MAX. ERP:	2,380 kW MAX. DA
BEAM TILT:	1°
NULL FILL:	STANDARD
TRANSMISSION LINE:	ANDREW HRL 600A
DESCRIPTION:	6 1/8" RIGID LINE
LENGTH:	400'
dB LOSS FOR LENGTH:	0.532 dB
EFFICIENCY FOR LENGTH:	88.5%
TRANSMITTER POWER OUTPUT:	73.7 kW
TRANSMISSION LINE LOSS:	8.5 kW
ANTENNA INPUT POWER:	65.2 kW

TABLE II

TABULATION OF TERRAIN AND COVERAGE DATA  
FOR ACHERNAR BROADCASTING COMPANY

CHANNEL 19 500-506 mHz  
2,380 kW MAX. DA @ 359.7 METERS  
CHARLOTTESVILLE, VIRGINIA

JUNE 1998

RADIAL BEARING	AVG. ELEV. OF RADIAL	RADIATION CENTER HAAT - meters	*DISTANCE TO CONTOURS km		
			80 dBu	74 dBu	64 dBu
0	136.6	391.3	51.5	61.0	79.3
45	235.4	292.5	50.2	59.1	75.3
90	116.8	411.1	55.7	65.6	85.0
135	143.4	384.5	54.6	64.2	83.4
180	146.3	381.6	55.0	64.5	83.8
225	173.6	354.3	50.8	60.0	77.6
270	222.0	305.9	35.5	44.1	59.0
315	171.6	356.3	34.4	43.5	58.8
Average	168.2 Meters	359.7 Meters			

64 dBu COVERAGE CONTOUR - AREA: 18,481 Square Kilometers

POPULATION: 492,638 Persons

Distance to contours established by means of a computer  
program which utilizes the TV field strength data found  
in Figure 1 of FCC Section 73.333.

\* FOR A MAX. ERP OF 2,380 kW (See *Table III*)

TABLE III

HORIZONTAL PLANE RADIATION PATTERN  
 ACHERNAR BROADCASTING COMPANY  
 CHANNEL 19 2,380 kW MAX. DA @ 359.7 m HAAT  
 CHARLOTTESVILLE, VIRGINIA

JUNE 1998

(ROTATE 115° CLOCKWISE)

<u>AZIMUTH DEGREES TRUE</u>	<u>RELATIVE FIELD</u>	<u>RELATIVE dB</u>	<u>AZIMUTH DEGREES TRUE</u>	<u>RELATIVE FIELD</u>	<u>RELATIVE dB</u>
0	0.995	-0.04	180	0.126	-18
10	0.989	-0.10	185	0.141	-17.0
20	0.967	-0.29	190	0.192	-14.33
30	0.940	-0.54	200	0.232	-12.69
40	0.941	-0.53	210	0.357	-8.95
50	0.970	-0.26	220	0.501	-6.00
60	0.995	-0.04	230	0.605	-4.36
70	0.999	-0.01	240	0.695	-3.16
80	0.993	-0.06	250	0.809	-1.84
90	0.979	-0.18	260	0.922	-0.70
100	0.922	-0.70	270	0.979	-0.18
110	0.809	-1.84	280	0.993	-0.06
120	0.695	-3.16	290	0.999	-0.01
130	0.605	-4.36	300	0.995	-0.04
140	0.501	-6.00	310	0.970	-0.26
150	0.357	-8.95	320	0.941	-0.53
160	0.232	-12.69	330	0.940	-0.54
170	0.192	-14.33	340	0.967	-0.29
175	0.141	-17.0	350	0.989	-0.10
178.1	0.093	-20.60			

Rotate 115 Degrees Clockwise

FIGURE 1

HORIZONTAL PLANE RADIATION PATTERN

ACHERNAR BROADCASTING COMPANY  
CHANNEL 19 500-506 MHz  
2,380 kW MAX. DA @ 359.7 METERS  
CHARLOTTESVILLE, VIRGINIA

*Communications Technologies, Inc.  
Marlton, New Jersey  
June, 1998*

**ANDREW**  
**AZIMUTH PATTERN**

Type:

ATW-C1

Directivity:

Numeric

dB

1.52

1.82

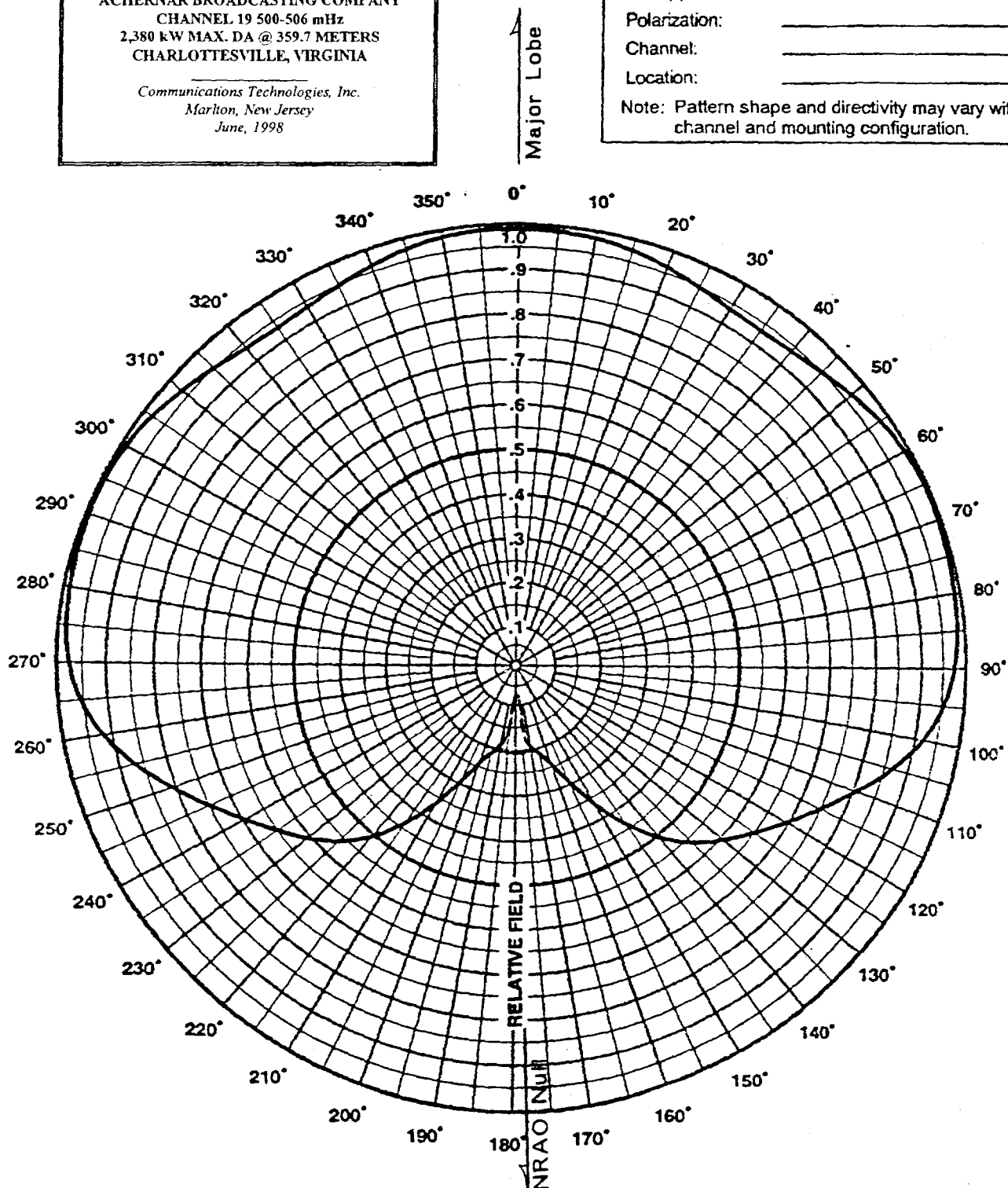
Peak(s) At:

Polarization:

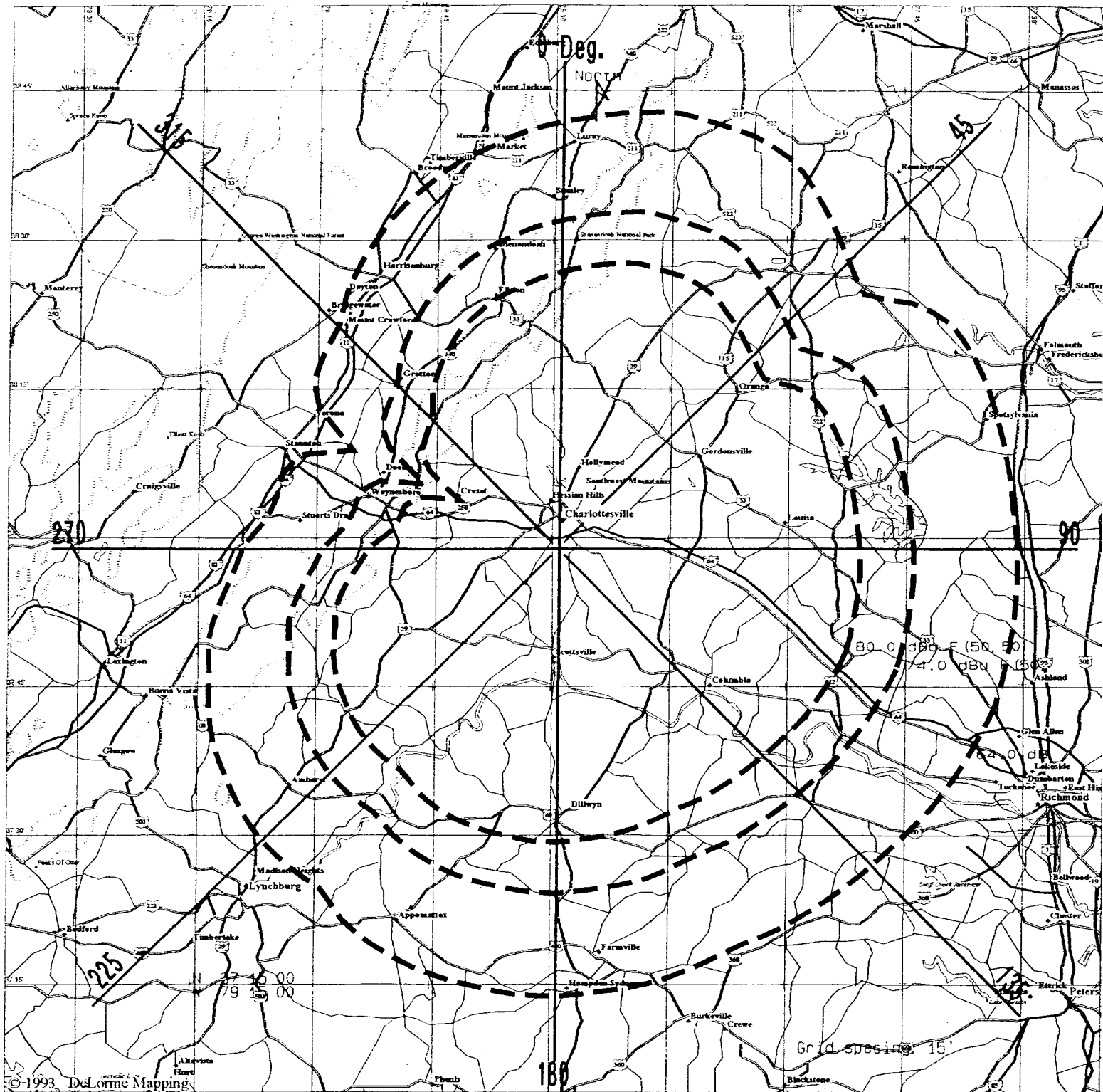
Channel:

Location:

Note: Pattern shape and directivity may vary with  
channel and mounting configuration.



ANDREW CORPORATION  
10500 W. 153rd Street  
Orland Park, Illinois U.S.A. 60462



# LEGEND

- ◆ Town, Small City
- ◆ Large City
- Interstate, Turnpike
- US Highway
- State/Prov Boundary
- Population Center
- Major Street/Road
- Interstate Highway
- State Route

- US Highway
- Open Water
- Contours

Scale 1:1,000,000 (at center)

20 Miles

20 KM

## **PROPOSED 64 dBu**

AREA: 18,481 Square Kilometers  
POPULATION: 492,638 Persons

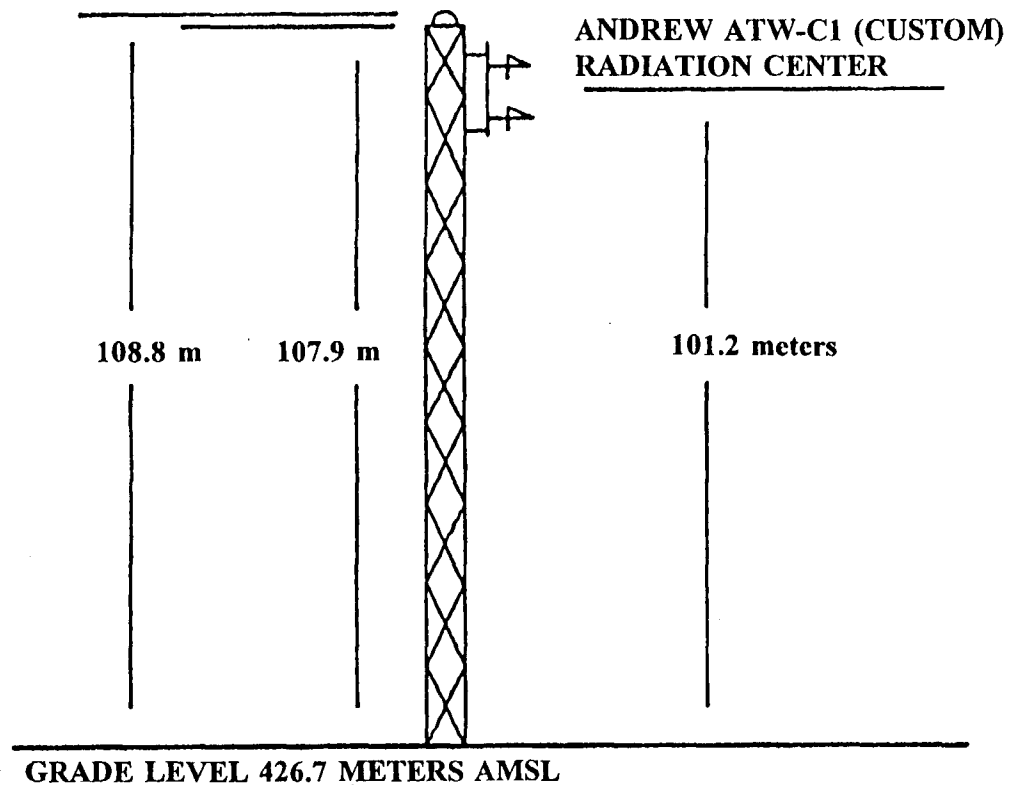
## **FIGURE 2**

### **PREDICTED SERVICE CONTOURS**

ACHERNAR BROADCASTING COMPANY  
CHANNEL 19 500-506 mHz  
2,380 kW MAX. DA @ 359.7 METERS  
CHARLOTTESVILLE, VIRGINIA

Communications Technologies, Inc.  
Marlton, New Jersey  
June, 1998

**NORTH LATITUDE: 37° 59' 05"**  
**WEST LONGITUDE: 78° 28' 49"**



**NOTES: NOT TO SCALE**  
**Other Antennas Not Shown**

**FIGURE 3**

**VERTICAL PLAN SKETCH**

**ACHERNAR BROADCASTING COMPANY**  
**CHANNEL 19 500-506 MHz**  
**2,380 kW MAX. DA @ 359.7 METERS**  
**CHARLOTTESVILLE, VIRGINIA**

*Communications Technologies, Inc.*  
*Marlton, New Jersey*  
*June, 1998*



## ANDREW ELEVATION PATTERN

Type: ATW24C4  
Directivity: Numeric dBd  
Main Lobe: 24.00 13.80  
Horizontal: 12.92 11.11  
Beam Tilt: 1.00 Degrees  
Polarization: \_\_\_\_\_  
Channel: \_\_\_\_\_  
Location: \_\_\_\_\_

Relative Field

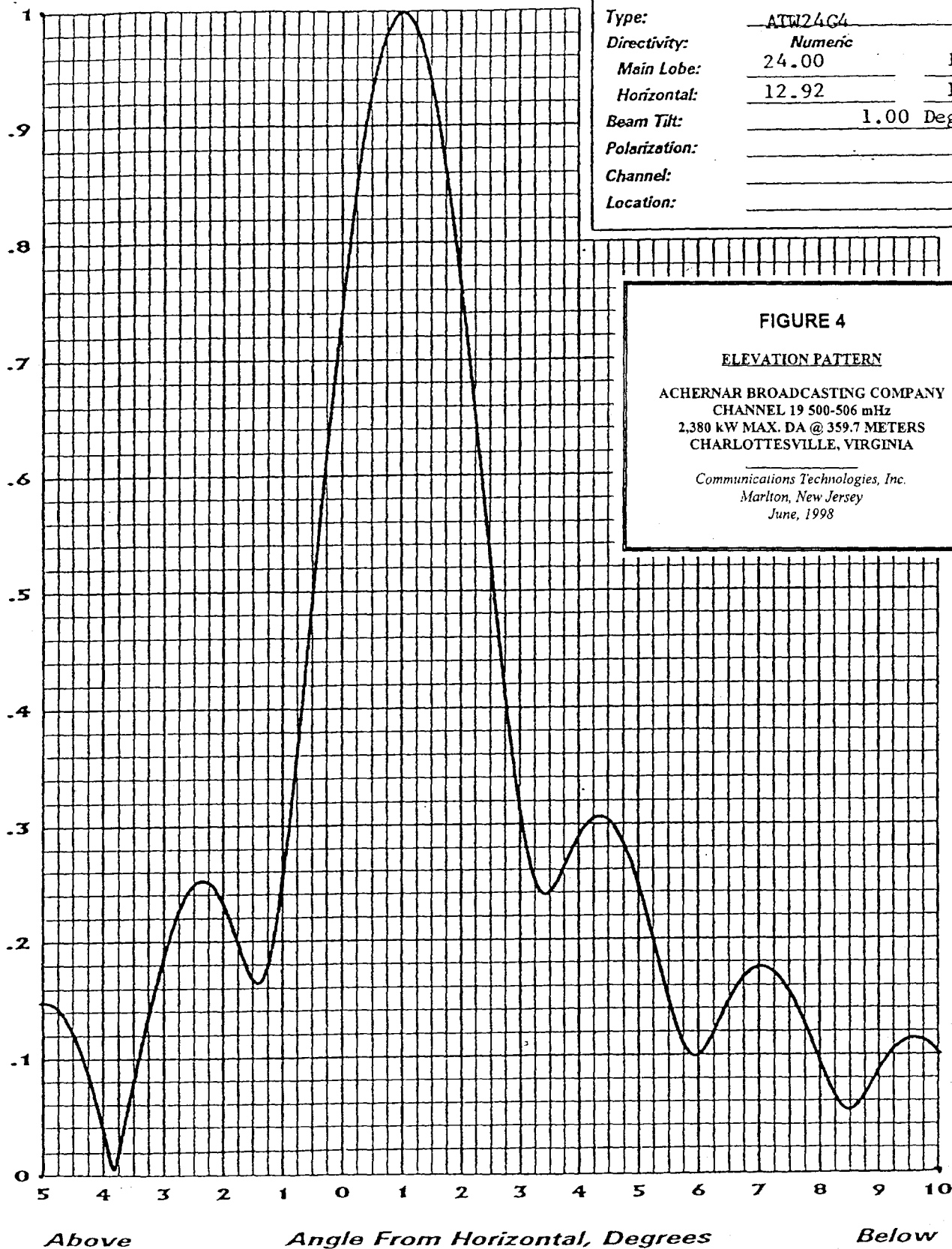


FIGURE 4

### ELEVATION PATTERN

ACHERNAR BROADCASTING COMPANY  
CHANNEL 19 500-506 MHz  
2,380 kW MAX. DA @ 359.7 METERS  
CHARLOTTESVILLE, VIRGINIA

Communications Technologies, Inc.  
Marlton, New Jersey  
June, 1998

ANDREW CORPORATION  
10500 W. 153rd Street  
Orland Park, Illinois U.S.A. 60462

**ENGINEERING STATEMENT  
CONCERNING USE OF NTSC CHANNEL 19  
IN PLACE OF NTSC CHANNEL 64  
AT CHARLOTTESVILLE, VIRGINIA**

**MAY 1998**

**SUMMARY**

The following engineering statement has been prepared on behalf of **Achenar Broadcasting Company** ("**Achenar**") in support of a request to construct a new NTSC facility on Channel 19 at Charlottesville, Virginia in lieu of the current Channel 64 allocation due to FCC actions in ET Docket No. 97-157. Allocation and NRAO protection are fully address in the following paragraphs.

**NRAO PROTECTION**

NRAO and the applicant mutually negotiated an allowable ERP of 15 kW from the Channel 64 site on Carter's Mountain to the observatory, based on the existing operation of W64AO at the same site. *Figure 1*, attached, is a terrain profile from the observatory to the **Achenar** Channel 64 site. For the 700 mHz (Channel 64 study frequency), the path loss is calculated at 212.9 dB. *Figure 2* is the same profile but with losses calculated for 500 mHz (Channel 19). Here, the path loss is 208.6 dB which is 4.3 dB less than the Channel 64 loss.

In this case, as in Channel 64, an existing translator is in operation, W19BB. W19BB radiates an ERP of 22 kW on the 292.7 degree azimuth bearing to the observatory. W19BB is also located on Carter's Mountain, and a profile path is attached as *Figure 3*. The path loss for the W19BB site is 0.2 dB greater than for the **Achenar** site. Based on the previous negotiations with NRAO, it would appear that the allowable ERP would be based on the W19BB existing level adjusted for the slight site change. Therefore, an ERP of 21 kW (22 kW reduced by 0.2 dB) is proposed at the 292.7° bearing to the observatory.

**NTSC ALLOCATION**

Attached as *Table I* is an allocation study for NTSC Channel 19 based on *Section 73.610* and *73.698*, *Table*

## **Appendix I**

II, of the Commission's Rules and Regulations using the proposed Achenar site location. There are no short spacings for Channel 19.

### DTV ALLOCATIONS

The spacing and interference criteria set forth in the MO&O in MM Docket No. 87-268, released February 23, 1998, were used to determine if there were any short spacings for the proposed Channel 19 NTSC channel to DTV channels. Table II is a study of NTSC to Channel 18-20 DTV allotments. All separations set forth in the MO&O and *Section 73.623* are met with the exception of the Channel 19 allotment at Portsmouth, Virginia where the required separation is 244.6 km and the actual separation is 220.9 km. In cases where the minimum distance separations are not met, *Section 73.623(c)* of the Rules sets forth the standards for determining that there will be no interference to a DTV channel. In this case, we wish to show a lack of interference from the proposed NTSC Channel 19 facility in Charlottesville to the Portsmouth, Virginia allotment and vice versa. It is noted that these computations are based on actual facilities.

For the showings of non-interference found herein, the facilities studied are as follows:

Channel 19 NTSC Charlottesville, Virginia  
N.L. 37° 59' 05"      W.L. 78° 28' 49"  
RC 527.9 m AMSL  
ERP 2,380 kW nondirectional

C19 WGNT-DT Portsmouth, Virginia  
N.L. 36° 48' 43"      W.L. 76° 27' 49"  
RC 302 m AMSL  
ERP 60.4 kW nondirectional

The analysis of possible interference to WGNT-DT is made as follows:

Figure 4: This map depicts the WGNT-NTSC F(50,50) 64 dBu contour location and the Longley-Rice ("L.R.") F(50,90) signal levels for WGNT-DT at 98% or more of the locations within the 41 dBu contour, the L.R. F(50,90) signal level is 50 dBu or greater.

Since the F(50,90) signal level within the protected 41 dBu contour by L.R. is 50 dBu or greater, the signal to noise ratio within the 41 dBu contour will be 25 dB or greater at the receiver, and the desired to undesired signal ratio will be 2 dB. For WGNT-DT, interference will occur from Channel 19 NTSC if the F(50,10) signal level from Channel 19 exceeds 62 dBu ( $50 \text{ dBu} - 2 \text{ dB} + 14 \text{ dB} = 62 \text{ dBu}$ ).

Figure 5: This map depicts the WGNT-NTSC F(50,50) 64 dBu contour location and the Channel 19 Charlottesville F(50,10) 62 and 48 dBu contours as well as the L.R. F(50,10) signal levels for the Channel 19 NTSC facility.

The 48 dBu contour is plotted to demonstrate that the overlap area to WGNT-DT lies in the area where the receive antenna directivity factor is the full 14 dB.

Therefore, the allowable value of interfering signal to WGNT-DT, before interference will occur, is the 62 dBu F(50,10) level or lower. The L.R. F(50,10) signal level for Channel 19 NTSC does not exceed 62 dBu inside the WGNT 64 dBu F(50,50).

Figure 6: Depicts the Channel 19 NTSC 64 dBu F(50,50) contour, the Longley-Rice F(50,50) 64 dBu or greater signal level area, and the WGNT-DT F(50,10) 30 dBu contour. The WGNT-DT F(50,10) 30 dBu contour is shown for the purpose of showing that the full 14 dB receive antenna directivity factor applies to this allocation.

Figure 7: Depicts the FCC F(50,10) 44 dBu contour ( $30 \text{ dBu} + 14 \text{ dB}$  receive antenna directivity) and the Longley-Rice F(50,10) 44 dBu signal area in relation to the Channel 19 NTSC 64 dBu contour. There is no intrusion of the WGNT-DT L.R. F(50,10) 44 dBu signal into the Channel 19 NTSC protected service area other than two de minimis locations totaling less than 1% of the total service area.

**CONCLUSION**

Based on the showings herein, it is believed that:

1. NRAO will not object to the current **Achenar** 301 Application for CP, as amended, which I believe to meet all protection criteria to NRAO. Should a CP modification for Channel 19 be filed, the null to the observatory can be decreased from the present 15 kW to 21 kW.
2. The current **Achenar** 301 Application for CP, as amended, meets all FCC distance separation requirements to other NTSC stations if operation on Channel 19 is specified.
3. The current **Achenar** 301 Application for CP, as amended, meets all DTV protection requirements for the site location on file but with Channel 19 specified.

The foregoing was prepared on behalf of **Achenar Broadcasting Company** by Clarence M. Beverage of *Communications Technologies, Inc.*, Marlton, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. The statements herein are true and correct of his own knowledge, except such statements made on information and belief, and as to these statements he believes them to be true and correct.

By 

**Clarence M. Beverage**  
for Communications Technologies, Inc.  
Marlton, New Jersey

**SUBSCRIBED AND SWORN TO** before me,

this 19<sup>th</sup> day of May, 1998,

Esther G. Sperbeck, NOTARY PUBLIC

**ESTHER G. SPERBECK**  
NOTARY PUBLIC OF NEW JERSEY  
MY COMMISSION EXPIRES OCT. 15, 2002

COMMUNICATIONS TECHNOLOGIES, INC. - BROADCAST ENGINEERING CONSULTANTS

**TABLE I**  
**NTSC TO NTSC ALLOCATION STUDY**  
**CHANNEL 19 NTSC**  
**CHARLOTTESVILLE, VIRGINIA**  
**MAY 1998**

<u>NTSC Channel</u>	<u>Call Sign</u>	<u>Latitude Longitude</u>	<u>Zone</u>	<u>Distance - Kilometers</u>	
				<u>Actual</u>	<u>Required</u>
14	WTMW	38-56-24 77-04-54	I	161.7	31.4
15	WBRA	37-11-45 80-09-18	II	171.9	31.4
15	WGPX	36-14-54 79-39-21	II	219.2	31.4
19	WNPA	40-10-51 79-09-46	I	250.8	248.6
19	WUNM-TV	35-06-18 77-20-15	II	335.5	248.6
19	WKPT-TV	36-25-54 82-08-15	II	367.5	248.6
20	WDCA	38-57-49 77-06-18	I	161.9	87.7
21	WJPR	37-19-14 79-37-59	II	125.6	31.4
22	WMPT	39-00-36 78-36-33	I	199.0	31.4
23	WCVE-TV	37-30-46 77-36-06	I	93.47	31.4
24	WDRL-TV	36-30-36 79-28-23	II	185.8	31.4

**TABLE I**  
**PAGE 2**

<u>NTSC</u> <u>Channel</u>	<u>Call</u> <u>Sign</u>	<u>Latitude</u> <u>Longitude</u>	<u>Zone</u>	<u>Distance - Kilometers</u>	
				<u>Actual</u>	<u>Required</u>
26	WETA-TV	38-57-49 77-06-18	I	161.9	95.70
27	WFXR-TV	37-11-46 80-09-16	II	171.8	31.40
33	WTVZ	36-48-32 76-30-13	I	218.3	95.7

**TABLE II**

**NTSC TO DTV ALLOCATION STUDY**

**CHANNEL 19 NTSC**

**CHARLOTTESVILLE, VIRGINIA**

**MAY 1998**

<u>DTV Channel</u>	<u>Allotment Community</u>	<u>Latitude Longitude</u>	<u>Zone</u>	<u>Distance - Kilometers</u>	
				<u>Actual</u>	<u>Required</u>
18	Roanoke, VA	37-11-42 80-09-22	I	125.59 Clear	106
19	Portsmouth, VA	36-48-43 76-27-49	I	220.91 Short	244.6
19	Lexington, NC	35-58-09 79-49-29	II	253.6 Clear	244.6
19	Charleston, WV	38-25-15 81-55-27	I	305.40 Clear	244.6
20	Lynchburg, VA	37-19-14 79-37-59	I	125.6 Clear	106

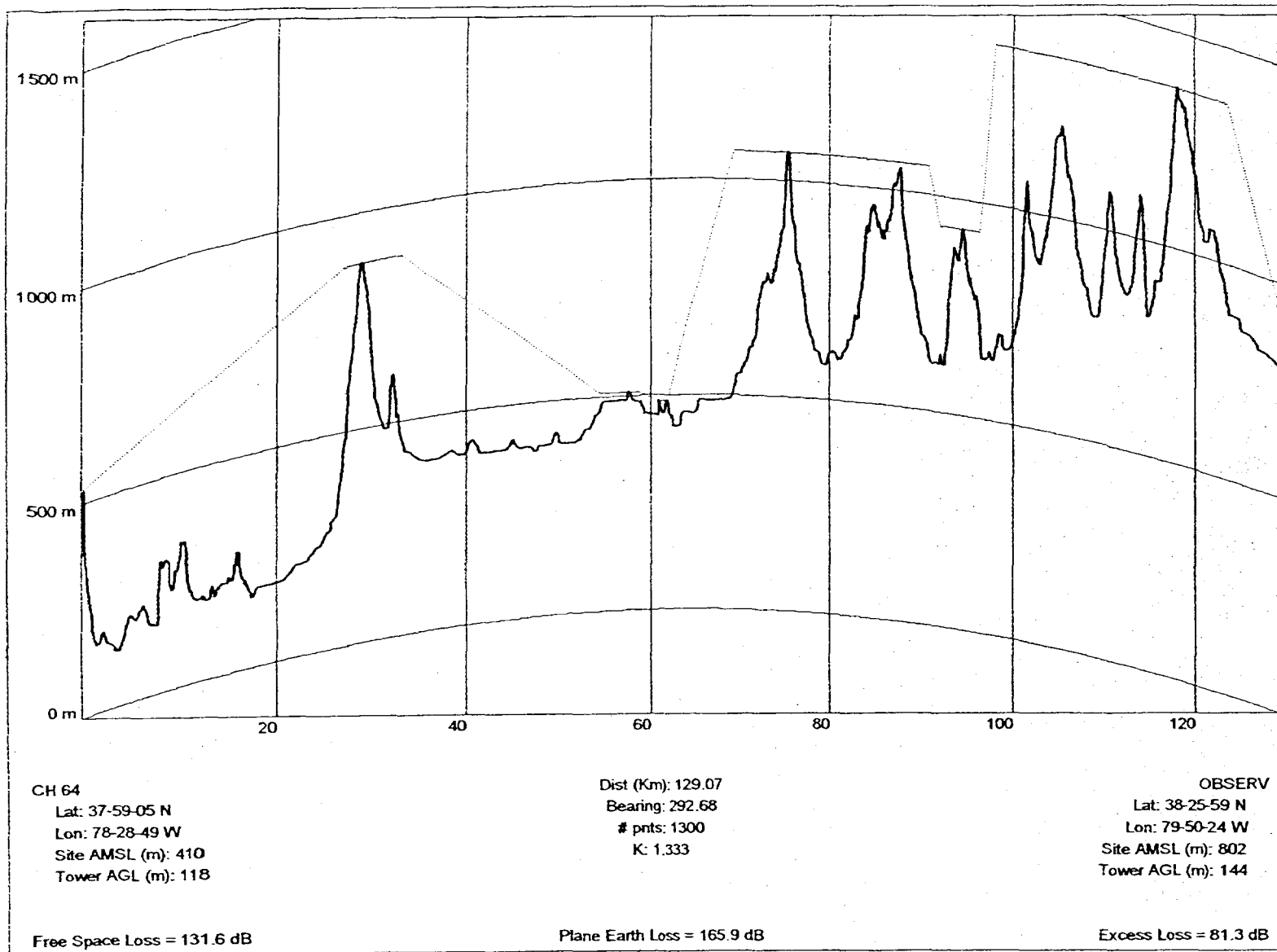


Figure 1

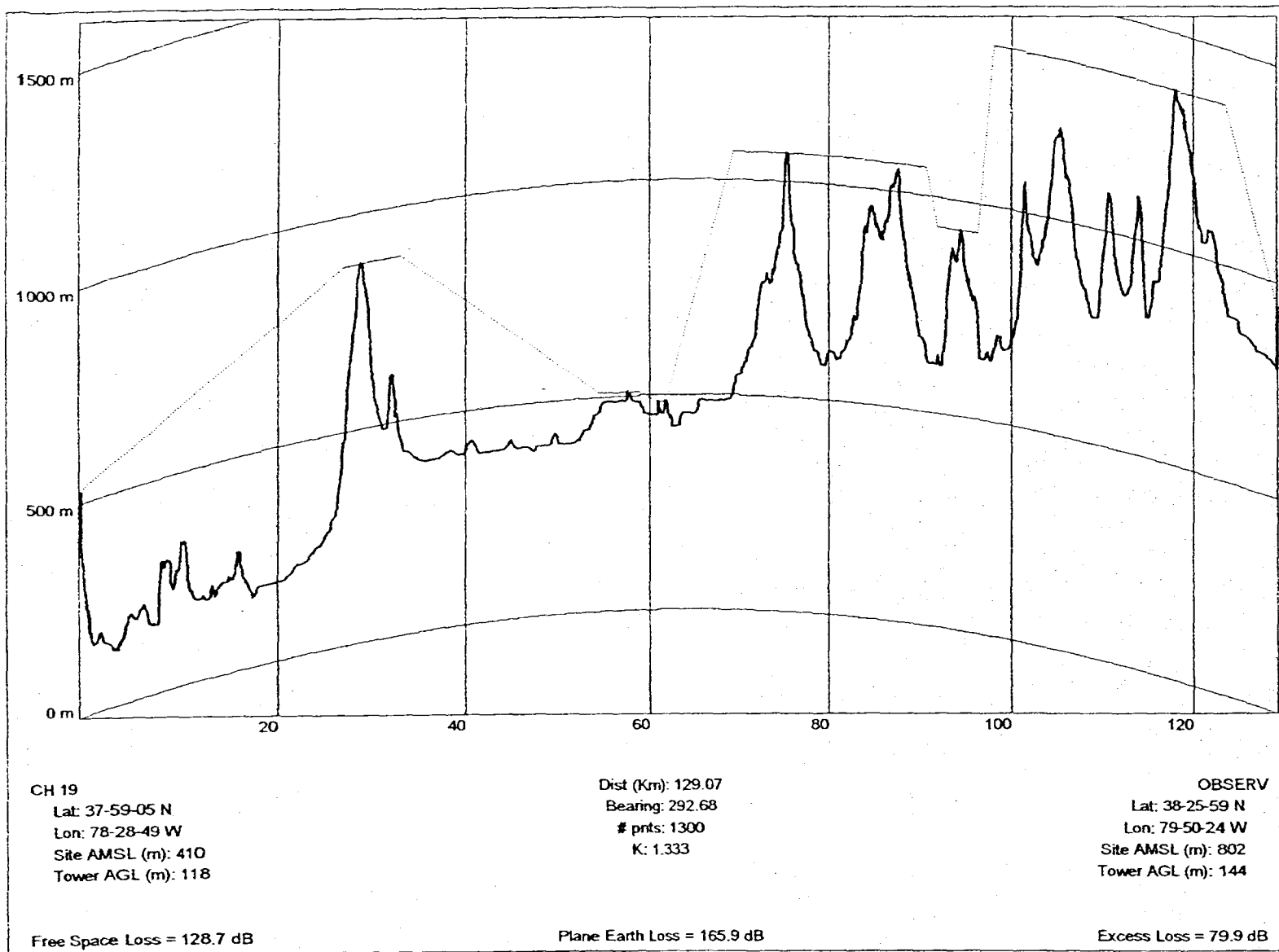


Figure 2

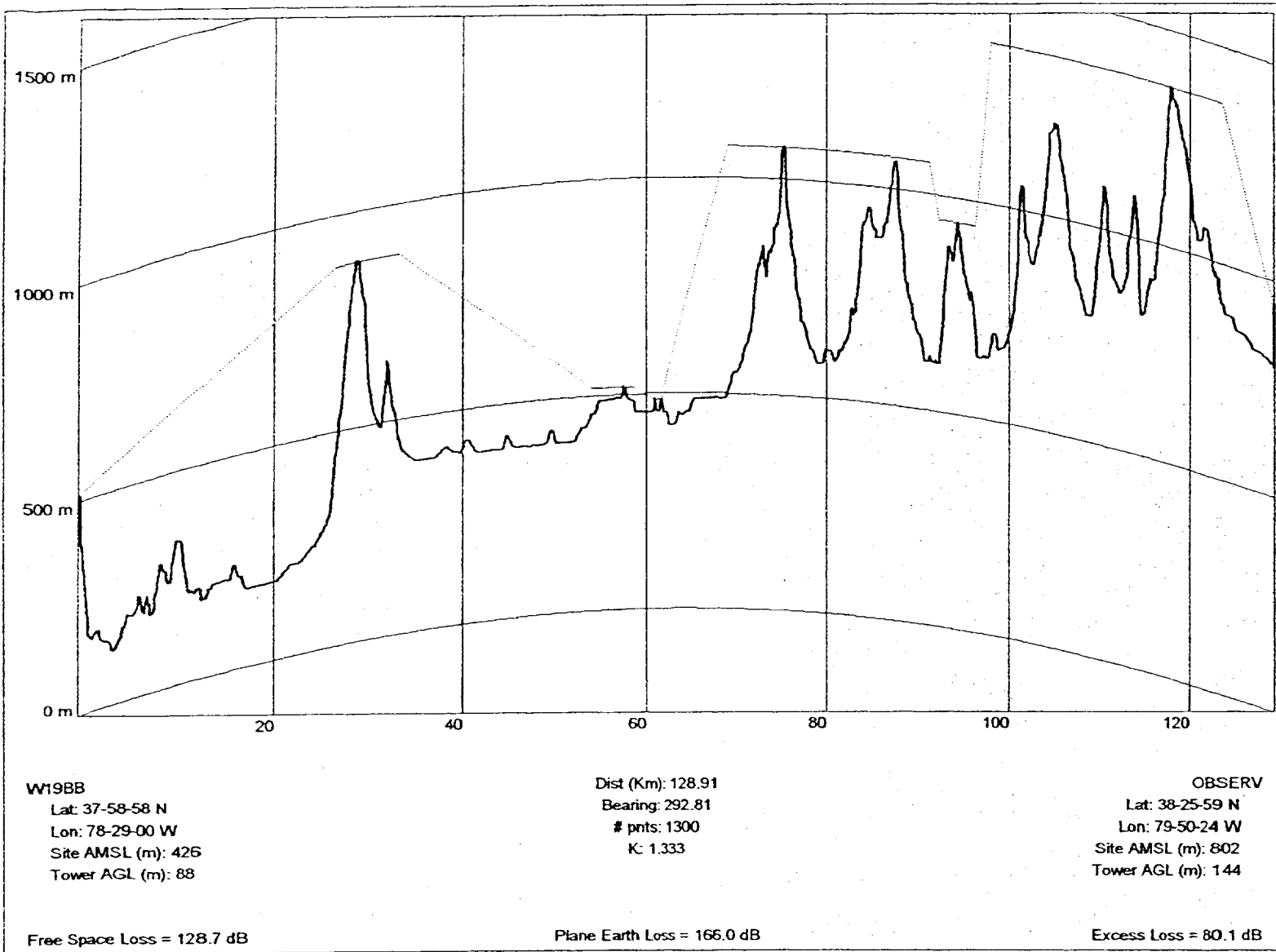


Figure 3

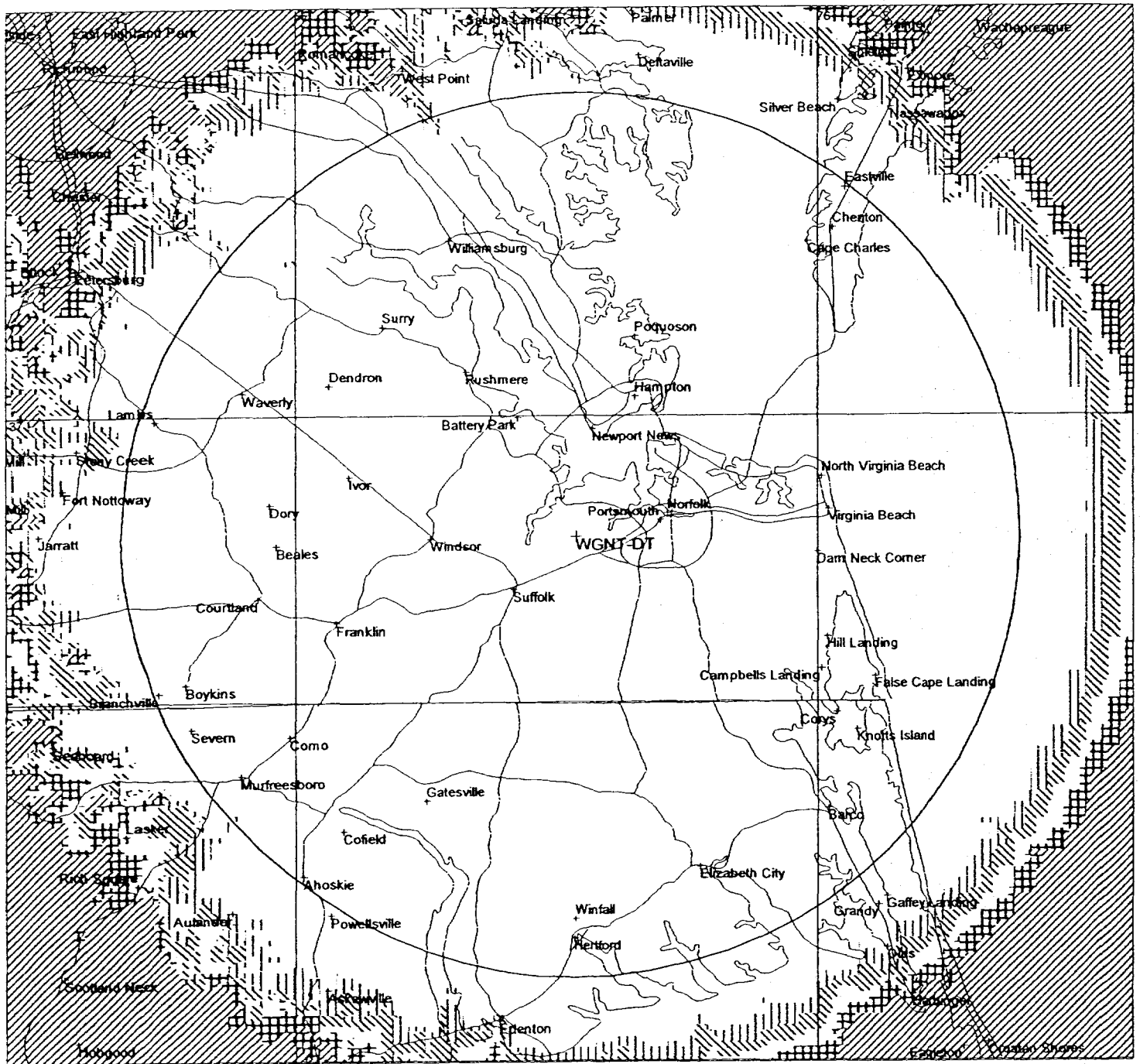


Figure 4

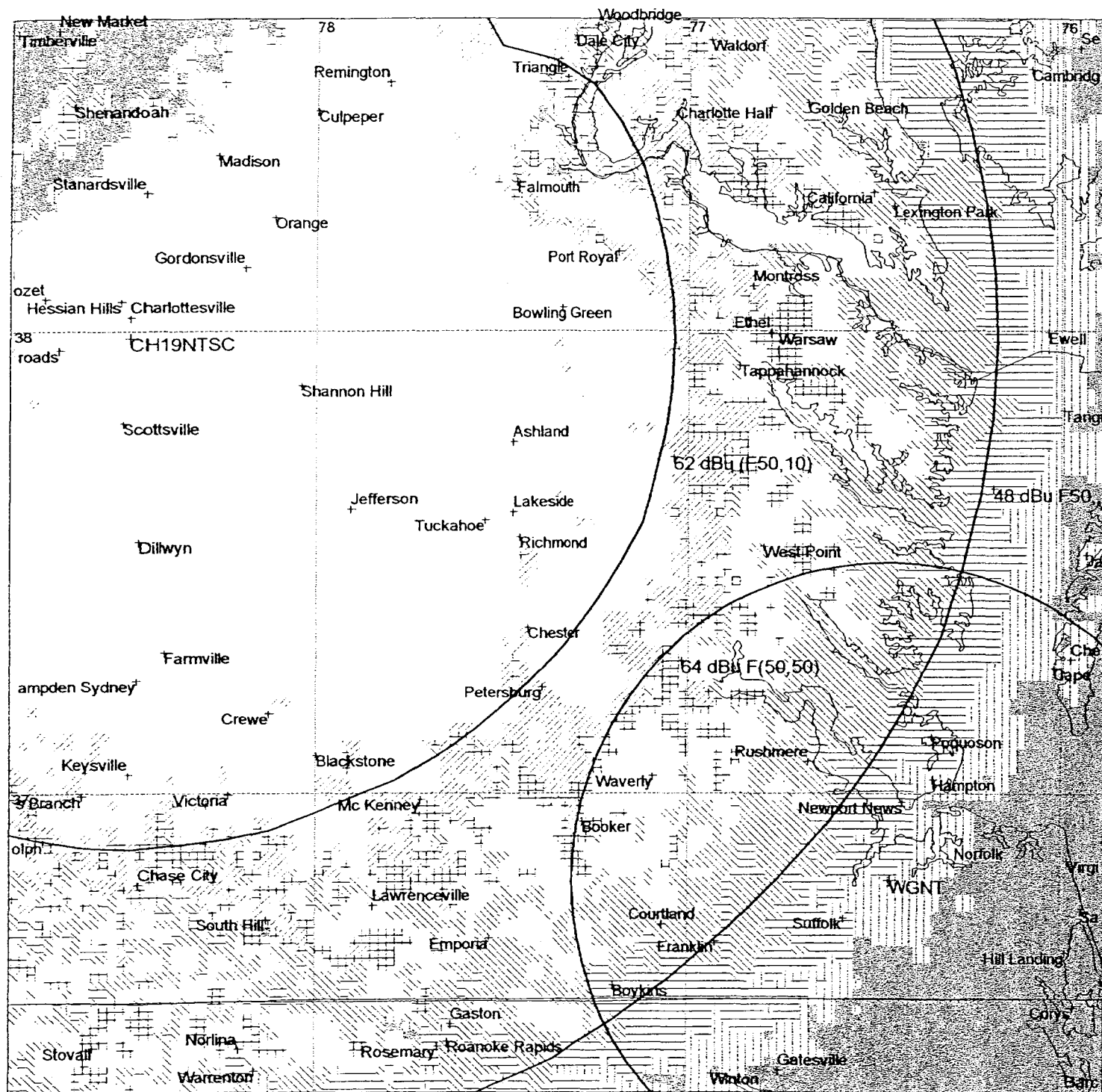
Communications Technologies, Inc. Marlton, NJ 08053 May 1998

Scale 1:1000000 NBS 101 Svc K=1.33

50 Km

— TV Grade 'A' — TV Grade 'B' — Highways — State Borders - - Lat-Lon Grids  
 100 - 49 dBu |||| 49 - 47 dBu \\\ 47 - 45 dBu 45 - 43 dBu +++ 43 - 41 dBu //// < 41 dBu

# CH 19 F(50,10) CONTOURS WITH L.R. F(50,10) LEVELS



Communications Technologies, Inc. Marlton, New Jersey

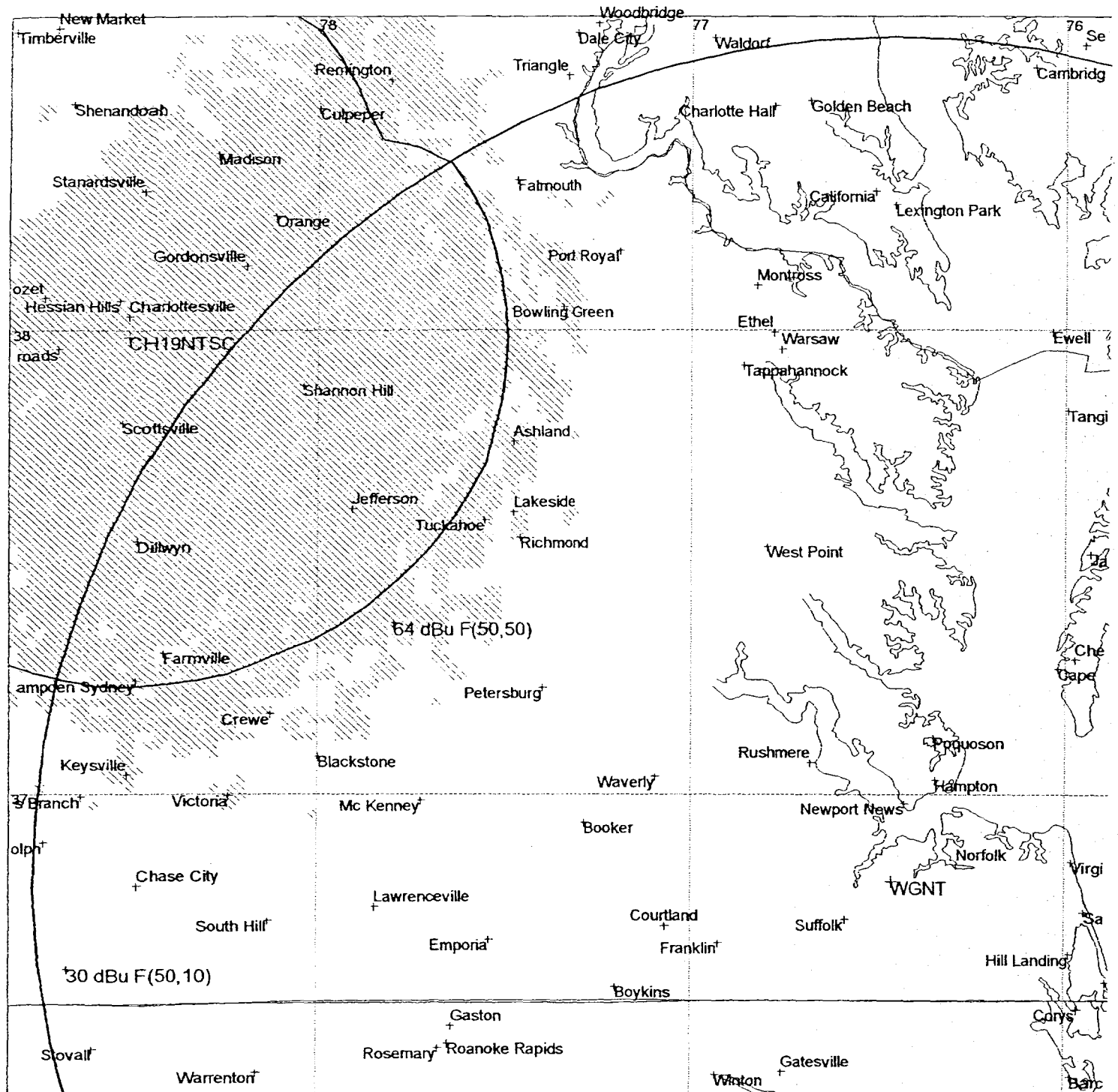
Figure 5

Scale 1:1300000 NBS 101 Svc K=1.33

50 Km

— TV Grade 'B'	— TV Interference	— State Borders	— Lat-Lon Grids		
100 - 62 dBu	62 - 58 dBu	58 - 56 dBu	56 - 54 dBu	54 - 52 dBu	52 - 50 dBu
50 - 48 dBu	< 48 dBu				

# CH 19 F(50,50) CONTOUR WITH LONGLEY RICE SIGNAL LEVEL



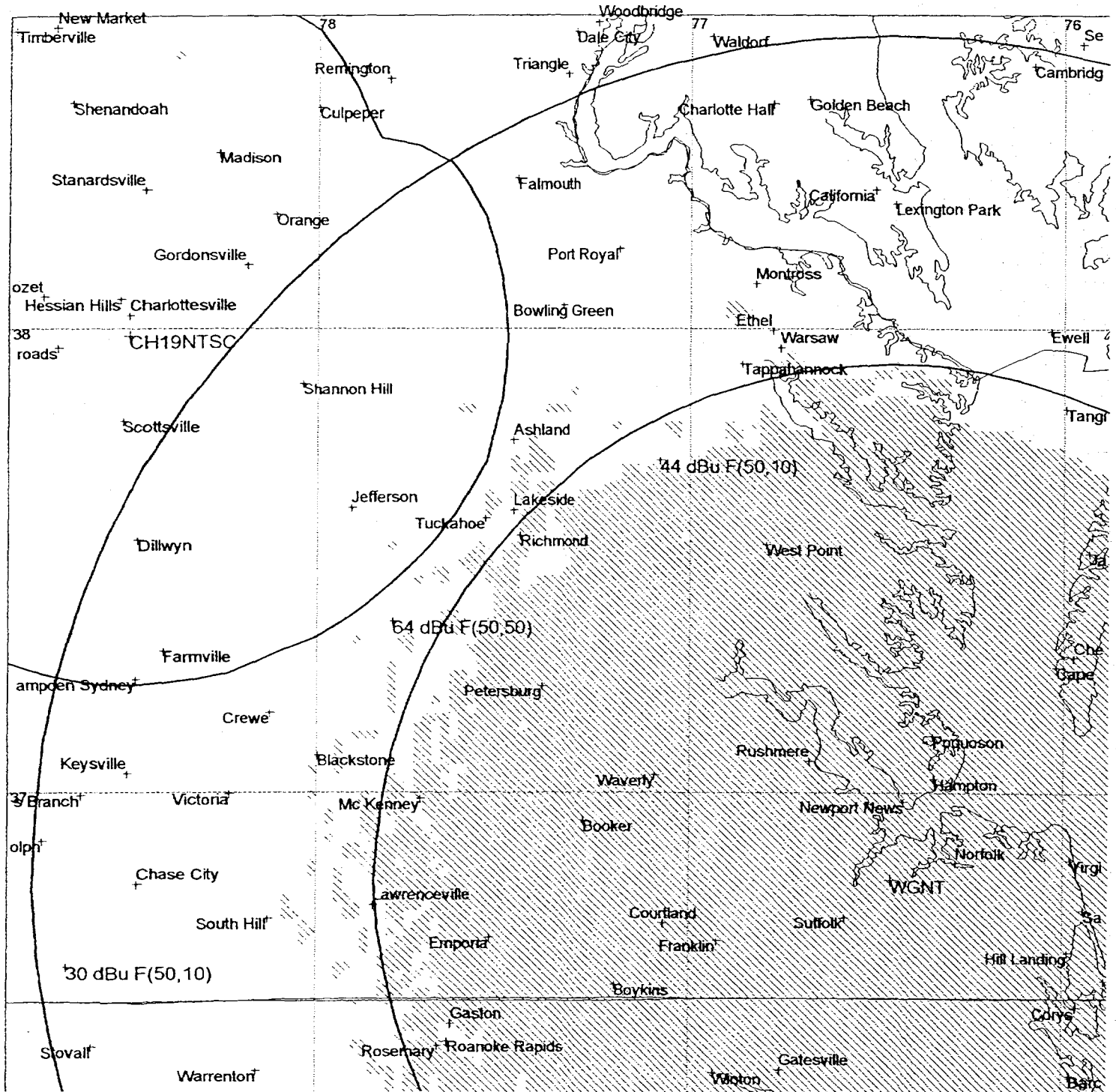
Communications Technologies, Inc. Marlton, New Jersey

Figure 6

Scale 1:1300000 NBS 101 Svc K=1.33

50 Km

# WGNT-DT F(50,10) @ L.R. SIGNAL LEVELS TO CH 19 64 dBu



Communications Technologies, Inc. Marlton, New Jersey

Figure 7

Scale 1:1300000 NBS 101 Svc K=1.33

50 Km

— TV Grade 'B' — TV Interference — State Borders — Lat-Lon Grids

//// 100 - 44 dBu < 44 dBu

## AGREEMENT

1. This Agreement is made this \_\_\_\_\_ day of September, 1997, by and among the National Radio Astronomy Observatory ("Observatory"), Achernar Broadcasting Company ("Achernar") and Lindsay Television, Inc. ("Lindsay").

### Recitals

2. Achernar and Lindsay are competing applicants for an FCC construction permit to build a new television station on Channel 64 at Charlottesville, Virginia. The Observatory has opposed the applications of Achernar and Lindsay because either applicant would cause interference to the Observatory's radio astronomy operations at Green Bank, West Virginia.

3. The Observatory's objection against a grant of either Achernar's or Lindsay's application has been litigated before the FCC and in the United States Court of Appeals for the District of Columbia Circuit, and is currently pending before the FCC upon remand from the Court of Appeals.

4. The parties to this Agreement have conferred at length, studies have been made and conferences have been held by their legal, engineering and technical representatives. All concerned have been assisted in this process by counsel for the Mass Media Bureau.

5. In order to end litigation over this interference issue in a manner that will serve the public interest and accommodate operations of both the Charlottesville television station and the Observatory, the parties have arrived at this Agreement, in consideration of the mutual promises and forbearances by,

between and among them.

Provisions

6. Achernar and Lindsay agree that the proposed transmitting facility of the television station on Channel 64 will be located on Carter's Mountain and will at all times provide protection of the Observatory that is at least equivalent to the protection currently afforded by a television translator station operating on Channel 64 on Carter's Mountain, i.e., W64AO with maximum ERP of 61 kW at an RC of 497 meters AMSL with an ERP of approximately 15,000 watts directed at the Observatory. The location of the antenna, height, input power, effective radiated power and other technical means by which such "equivalent protection" will be provided is for the television station permittee to determine; provided, however, that the permittee agrees (a) to accept appropriate conditions limiting the operation of the Channel 64 full service facility on the Construction Permit issued by the FCC, (b) to the agreement to cease operations as provided in ¶8 and (c) that the operator of Channel 64 shall not seek FCC approval to employ a panel antenna without giving the Observatory 30 days notice of its intent to request approval of such antenna modification. Attached as Exhibit 1 are Comments on Technical Specifications, M. M. McKinnon, dated August 27, 1997, which is agreed upon and incorporated herein by reference. Attached as Exhibits 2 and 3 are the engineering amendments of the applications of Achernar and Lindsay, respectively, which are acceptable to the

Observatory. Nothing herein shall prevent the permittee from employing DTV facilities so long as equivalent protection is provided.

7. Achernar, Lindsay and the Observatory agree that the licensee may operate one or two television translator stations to provide service to the Staunton and Waynesboro, Virginia, areas within the National Radio Quiet Zone ("NRQZ") for which the applications are coordinated with the Observatory and provide the Observatory with the level of protection (power density limits) calculated by the Observatory. Attached as Exhibits 4-7 are the applications of Achernar and Lindsay, respectively, each for two television translator stations, which are acceptable to the Observatory. As part of the Joint Petition for Approval of Agreement, the parties shall request that the Commission open a special window of opportunity to accept these applications for immediate consideration.

8. Achernar and Lindsay, on the one hand, and the Observatory, on the other hand, agree to negotiate in good faith mutual agreements on a case-by-case basis to reduce, modify or cease operations, no earlier than 12:00 midnight and no later than 6:00AM, of the television station referred to in ¶6 as needed by the Observatory for its radio astronomy operations. The Observatory shall initiate such case-by-case good faith negotiations under this ¶8 only in out-of-the-ordinary situations, not in the ordinary and normal course.

9. This Agreement, the amendments and translator

applications attached as Exhibits 1-7, and a joint petition for approval of this Agreement and acceptance of the amendments and translator applications shall be filed with the FCC within ten days. The parties shall prosecute the joint petition diligently and this Agreement shall be contingent upon grant of the application of Achnar and/or Lindsay as amended by Exhibits 2-3.

10. This Agreement shall be binding upon and shall inure to the benefit of the successors and assigns of the parties.

11. This Agreement may be executed in counterpart and signatures may be transmitted by telecopier.

National Radio Astronomy  
Observatory

Achnar Broadcasting Company

By Paul Vanden Bout

By Allegor P. P. P.

Lindsay Television, Inc.

By B. Walton Lindsay

SUPPLEMENT TO AGREEMENT

The attached Agreement, bearing the date of "this \_\_\_\_\_ day of September, 1997" is supplemented as follows:

1. The Agreement is executed by Achernar, Lindsay and the Observatory effective as of the date of this supplement.

2. The Agreement also is executed by Charlottesville Broadcasting Corporation, owned 50% each by Achernar and Lindsay.

3. The Observatory has no objection to the substitution of channel 19 for channel 64 under the Agreement so long as the "equivalent protection" and other provisions in ¶6 of the Agreement govern.

4. This supplement may be executed in counterparts and signatures may be transmitted by electronic means.

National Radio Astronomy  
Observatory

Achernar Broadcasting Company

By \_\_\_\_\_

By Margaret Palmer

Lindsay Television, Inc.

Charlottesville Broadcasting  
Corporation

By R. Walton Lindsay

By Margaret Palmer

Dated as of June 1, 1998

SUPPLEMENT TO AGREEMENT

The attached Agreement, bearing the date of "this \_\_\_\_\_ day of September, 1997" is supplemented as follows:

1. The Agreement is executed by Achernar, Lindsay and the Observatory effective as of the date of this supplement.
2. The Agreement also is executed by Charlottesville Broadcasting Corporation, owned 50% each by Achernar and Lindsay.
3. The Observatory has no objection to the substitution of channel 19 for channel 64 under the Agreement so long as the "equivalent protection" and other provisions in ¶6 of the Agreement govern.
4. This supplement may be executed in counterparts and signatures may be transmitted by electronic means.

National Radio Astronomy  
Observatory

Achernar Broadcasting Company

By Paul Vander Zant

By \_\_\_\_\_

Lindsay Television, Inc.

Charlottesville Broadcasting  
Corporation

By \_\_\_\_\_

By \_\_\_\_\_

Dated as of June 1, 1998

## EXHIBIT 1

### Comments on Technical Specifications

M. M. McKinnon

August 27, 1997

I discussed the technical specifications for the channel 64 transmitter on Carter's Mountain with Clarence Beverage of Communications Technologies, Inc. The transmitter will meet the requirement of a 15 kW ERP towards Green Bank provided that the antenna system is designed, fabricated, and installed in compliance with the specifications.

My primary concern is that the antenna system is installed such that the sharp null in the beam pattern is centered on the true azimuth towards Green Bank. In our experience, antenna systems of this type are assembled for the first time in the field, and the orientation of the null could only be verified with field measurements. In lieu of the field measurement for the channel 64 transmitter, Mr. Beverage recommended that the beam pattern be measured at the antenna manufacturer's test range. The measurement will locate the actual orientation of the null with respect to the axis of the beam's major lobe. The location of either the null or the major lobe can be transferred to an appropriate reference axis on the antenna mounting structure, and the placing of the null towards Green Bank is a matter of aligning the reference axis with an appropriate azimuth in the field. As I understood Mr. Beverage's recommendation, a certified land surveyor would insure the proper alignment during the field installation.

I agreed to Mr. Beverage's recommendation provided that appropriate fiducial marks, or other installation guides deemed appropriate by the antenna manufacturer, are placed on the antenna mounting structure to insure that the orientation of the primary antenna with respect to the out-of-phase antenna is the same in the field as under the test conditions. As mentioned in the preceding paragraph, other fiducial marks should be placed on the structure to aid in aligning the null with the true azimuth towards Green Bank. For the site coordinates given in the technical specifications, the true azimuth is 293.09 degrees (the specifications indicate 293.18 degrees).

Page two of the specifications states that the so-called "depression angle" will be supplied by NRAO. I have interpreted this angle to be the angle measured from the horizontal at the antenna to the peak of the first obstacle along the signal path towards Green Bank. The angle is 0.6 degrees.

Mr. Beverage and I also discussed a technical detail of the test measurements which concerns the depression angle. When the beam pattern of the transmitter is measured at the test range, it is important that the measuring antenna be oriented along the depression angle instead of in the horizontal as it normally

would be. Mr. Beverage assured me that the test facility could accommodate the required geometry.

Mr. Beverage invited me to witness the testing of the antenna system at Andrew Corporation in Orland Park, Illinois. I accepted his invitation. I also intend to witness the field installation of the antenna system.

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

In re Applications of	)	MM Docket No. 86-440
	)	
Achernar Broadcasting Company	)	File No. BPCT-860410 KP
	)	
Lindsay Television, Inc.	)	File No. BRCT-860410 KQ
	)	
For Construction Permit	)	
For a New UHF Station	)	
In Charlottesville, Virginia	)	

To: The Commission

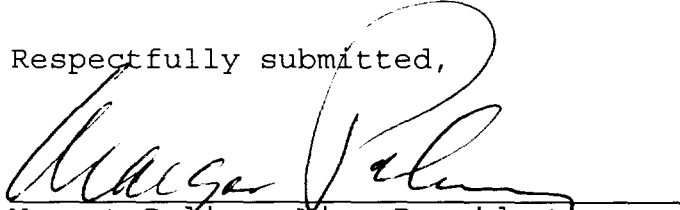
AMENDMENT

Attached hereto is an Engineering Statement Covering Amendment to Application for Construction Permit for Achernar Broadcasting Company ("Achernar") specifying Channel 19, Charlottesville, Virginia. Charlottesville Broadcasting Corporation, the entity resulting from the pending merger of Achernar and Lindsay Television, Inc. ("Lindsay"), will adopt the Achernar engineering proposal. Also attached are copies of an Agreement bearing the date of September 1997 executed by Achernar, Lindsay and the National Radio Astronomy Observatory ("NRAO"); a Supplement to Agreement dated as of June 1, 1998 executed by Achernar, Lindsay, NRAO and Charlottesville Broadcasting Corporation; and Comments on Technical Specifications of M. M. McKinnon dated August 27, 1997, which all parties agree is an integral part of their agreement on this matter.

These attachments constitute an amendment to the pending Joint Petition for Approval of Settlement Agreement, for

Leave to Amend Application and for Immediate Grant of Construction Permit, filed jointly by the parties on January 30, 1998.

Respectfully submitted,



Margot Polivy, Vice President  
Charlottesville Broadcasting Corporation

24 June 1998

CERTIFICATE OF SERVICE

I, Gene A. Bechtel, certify that I have this 24th day of June 1998 caused true copies of the foregoing SUPPLEMENT TO JOINT PETITION FOR APPROVAL OF SETTLEMENT AGREEMENT, FOR LEAVE TO AMEND APPLICATION AND FOR IMMEDIATE GRANT OF CONSTRUCTION PERMIT to be hand delivered or placed in the United States mail, first class, postage prepaid, addressed to the offices of the following:

Via hand delivery

James W. Shook, Esq.  
Mass Media Bureau  
Federal Communications Commission  
2025 M Street, N.W., Suite 8210  
Washington, D.C. 20554

John I. Riffer, Esq.  
Assistant General Counsel-  
Administrative Law  
Federal Communications Commission  
1919 M Street, N.W., Suite 610  
Washington, D.C. 20554

Roy J. Stewart, Chief  
Mass Media Bureau  
Federal Communications Commission  
1919 M Street, N.W., Suite 314  
Washington, D.C. 20554

Keith Larson  
Assistant Chief-Engineering  
Federal Communications Commission  
1919 M Street, N.W., Suite 314  
Washington, D.C. 20554

Via mail

Christopher J. Reynolds, Esq.  
Post Office Box 2809  
Prince Frederick, Maryland 20678  
Counsel for National Radio  
Astronomy Observatory

Wayne D. Johnson, Esq.  
Wiley, Rein & Fielding  
1776 K Street, N.W.  
Washington, D.C. 20006  
Counsel for Station WCVW,  
Richmond, Virginia

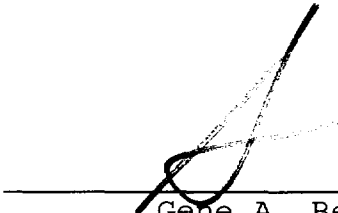
Marvin J. Diamond, Esq.  
464 Common Street, #365  
Belmont, Massachusetts 02178  
Counsel for channel 63 applicant  
United Television, Inc.

Ronald G. London, Esq.  
Pepper & Corazzini  
1776 K Street, N.W.  
Washington, D.C. 20006  
Counsel for channel 63 applicant  
Television Capital Corporation of Richmond

George H. Shapiro, Esq.  
Arent, Fox, Kintner, Plotkin & Kahn  
1050 Connecticut Avenue, N.W., Suite 600  
Washington, D.C. 20036  
Counsel for Viacom, Inc., Television  
Station WGNT, Portsmouth, Virginia

Courtesy copy to:

Covington & Burling  
1201 Pennsylvania Avenue, N.W.  
P. o. Box 7566  
Washington, D.C. 20044  
Counsel for Shenadoah Valley Educational TV  
Corp., Television Translator Station  
W19BB, Charlottesville, Virginia



---

Gene A. Bechtel